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AMSAT NEWS SERVICE
ANS-118

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to:
ans-editor at amsat.org.

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SB SAT @ AMSAT $ANS-118.01
ANS-118 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 118.01
>From AMSAT HQ KENSINGTON, MD.
April 28, 2019
To All RADIO AMATEURS
BID: $ANS-118.01

AMSAT 50th Anniversary Issue of AMSAT Journal Available For All

We have made our special 50th Anniversary Edition of The AMSAT Journal available to all. If you enjoy this issue, please consider joining AMSAT today!

https://tinyurl.com/ANS-118-Journal

[ANS thanks AMSAT-NA Office for the above information.]

PHL-Microsat Issues Diwata-2 Amateur Radio Unit Service Announcement

On April 26 Philippines PHL-Microsat announced that Diwata-2's ARU or ham radio is now ready for service.

While Diwata-2 is classified as an Earth-observing microsatellite - with 4 optical payloads or cameras tasked to gather data from space in the form of satellite images - it also carries an Amateur Radio Unit (ARU).

The ARU introduced in Diwata-2 is a spaceborne module designed and manufactured in the Philippines. It is targeted for amateur radio communication, emergency and disaster response, and wireless experimentation and training. Operating modes will include:

+ FM voice repeater
  Uplink: 437.500 MHz FM (CTCSS 141.3)
  Downlink: 145.900 MHz FM

+ APRS message digipeater
  Uplink: 437.500 MHz 1K2 AFSK
  Downlink: 145.900 MHz 1K2 AFSK
  Callsign: DW4TA-1
  By default, the ARU will operate as an APRS digipeater once a week on Sunday and can be changed as necessary via command link.

+ Morse-based beacon
  Downlink: 145.900 MHz

+ APRS-based beacon
  Downlink: 145.900 MHz 1K2 AFSK

The ARU will send different beacon formats according to its scheduled/announced operation. Morse-coded CW beacons are sent when ARU operates as FM voice repeater. Morse-coded CW beacons will be transmitted on a 2 minute cycle with 1 minute of transmission followed by a 1 minute pause.

APRS beacons are sent when it operates as APRS digipeater. APRS beacon packets will be transmitted every 30 seconds, with a packet duration of 1-2 seconds.

For schedule updates, follow @Diwata2PH on Twitter or via the publicly accessible web page at: https://twitter.com/Diwata2PH

On April 11, the Radio Amateur Satellite Corporation (AMSAT) designated Diwata-2 as Philippines-OSCAR 101 (PO-101).

For more info on Diwata-2 ARU usage and schedules, follow us on Twitter: @Diwata2PH -or- follow their blog on-line at:
https://blog.phl-microsat.upd.edu.ph/tagged/amateur-radio
http://phl-microsat.upd.edu.ph/diwata2

[ANS thanks PHL-Microsat and the Diwata-2 Team for the above information]

Coronation Station HS10KING/mm On Geostationary Satellite

To mark the Coronation of King Vajiralongkorn Bodindradebayavarangkun (King Rama X) from May 4-6, 2019 the Radio Amateur Society of Thailand under the Patronage of His Majesty the King will be operating a special event station

The station will be operated from the Royal Thai Navy aircraft carrier, the Chakri Narubet, in the Gulf of Thailand from May 3-6 using the callsign HS10KING/mm.

This station will be making QSOs in the 40, 20, 15 and 10 metre HF bands, on 2 metres VHF and also using amateur radio satellites, including the Es'hail-2 / QO-100 satellite.

Consequently, the May meeting of RAST will be postponed to the second Sunday of the month, and will take place on Sunday May 12 at Sena Place Hotel when applications to take the upcoming Intermediate Class examination will be available

As usual all RAST members are welcome to attend this meeting and hopefully they will be able to have a QSO with HS10KING/mm.

[ANS thanks Tony Waltham, HS0ZDX via AMSAT-UK for the above information.]

SatNOGS Satellite Ground Station Article in HackSpace Magazine

The May edition of HackSpace magazine, issue 18, featuring articles by radio amateur Jo Hinchliffe MW6CYK is available as a free PDF.

On pages 34-47 is his special feature on Space, which explains how you can build a SatNOGS satellite ground station to receive amateur radio satellites.

Jo's article Make a Slim Jim Antenna appears on pages 110-111.

Also in the magazine, on pages 96-99, Ben Everard explains how to build an ISS count-down timer.

You can download the free HackSpace magazine PDF from https://hackspace.raspberrypi.org/issues/18

Direct link to the PDF
https://tinyurl.com/ANS-118-HackSpace

[ANS thanks Jo Hinchliffe MW6CYK via AMSAT-UK for the above information.]

AMSAT South Africa Developing AfriCUBE SDR-based CubeSat

AMSAT SA has announced that parallel to its analogue Kletskous Cube-Sat, the group is working on a digital project featuring a Software defined transponder. Called AfriCUBE, the CubeSat will use the same space frame as KLETSKOUS. Anton Janovsky is current building a proto-type transponder. AMSATSA is inviting persons interested in becoming part of the development team to send their details to: admin(a)amsatsa.org.za.

Meanwhile the development and final construction of the AMSAT SA KLETSKOUS is plagued by electronic component obsolescence. This forces unwanted design changes to be made to ensure that when the

time comes to construct the final launch unit, the main components are still available.

The KLETSKOUS team decided to freeze the design of KLETSKOUS and purchase a quantity of devices to proactively mitigate future obsolesce. This decision will also speed up the process of putting a final satellite on the table. "Every time we change designs to mitigate for the discontinued components, it is like starting the design a fresh, often
creating new problems that have to be solved", Hannes Coetzee, ZS6BZP said. "By freezing the design, in other words making a final decision on the main specialised devices to be used, we will be able to speed up the process of putting a flight ready unit on the table."

KLETSKOUS is not a textbook design. Most of the sub-components that will make up KLETSKOUS are designed and being built by the volunteer team. "We do not have the finances to go out and purchase sub-units and simply wire them up.", Coetzee said.

Access the original posting, with photo, at:
http://www.amsatsa.org.za/

[ANS thanks AMSAT South Africa for the above information]

Interview with Peter Gülzow, AMSAT-DL President

On the occasion of the 4th Radio Day in Kassel, which is organized by DARC for the fourth time, an interview was conducted by the video portal Fascination Amateur Radio with Peter Gülzow, DB2OS, President of AMSAT Deutschland e.V., on the topic of QO-100/Es´hail-2.

The video which is in German can be viewed at:
https://tinyurl.com/ANS118-ON4WF

AMSAT-UK suggests doing the following to support Closed Caption of this German Piece:
"Select Closed Caption (CC) then in Settings Auto-Translate->English "

[ANS thanks AMSAT-DL for the above information.]

PSAT2, ISS Sat Gate needed in Central America

In a recent email via the AMSAT-BB Bob Bruninga wrote:
PSAT2, ISS Sat Gate needed in Central America.

See the coverage map for the APRS satellites on 145.825. There is a hole in Central America where the telemetry from these satellites can go for almost three full orbits and not be captured. All the rest of the world is covered.

Coverage Map: http://aprs.org/psat2.html

We'd like to fill that hole!

Contact wb4apr (at) amsat.org

[ANS Thanks Bob, WB4APR for the above information]

Upcoming Satellite Operations

Isles of Scilly (IN69) – April 20-27, 2019
A team consisting G4EDG, G4ELZ and G4GSA will be active from St Mary's, Isles of Scilly EU-011 as GB5SM during April 20-27, 2019. QRV on HF bands, CW/SSB/Digi. Possible satellite activity too. QSL via LZ1JZ. Logs will be uploaded to LoTW & Club Log

Vera Cruze State, Mexico (EK19) – April 25-28, 2019
Ismael, XE1AY, will activate Veracruz State, grid EK19wc, from 25 to 28 April. This will be a portable FM-only activation.

Central and Northern Maine (FN53, FN54, FN55, FN56, FN57, FN65, FN66, FN67) – POSTPONED
Join Matt, W1PY and Sean, KX9X as they team up for a weekend of ham radio through the Pine Tree State! Follow them as they activate the Potato Field grids of central and northern Maine for the satellite community, and hit some state parks on HF for the Parks on the Air and WWFF communities. There will also be spontaneous activations of curious roadside attractions as they roll through.

Grids to be activated on satellite: FN53 – 54 – 55 – 56 – 57 – 65 - 66 – 67. A special effort will be made to activate the grid intersection of FN56-57-66-67 in the potato field north of Caribou. Detailed satellite operations schedule to be announced ASAP.

For more information, check out https://t.co/2irvAUBvAu and keep an eye on Sean's Twitter feed https://twitter.com/SeanKutzko.

EM61 – April 26 or 27, 2019
Jeff (WE4B), Marissa (W4AQT) and "Little Sister" will make a quick run to EM61 sometime during the weekend of April 26th/27th for anyone who needs the grid. Watch for specific date/pass announcements on Jeff's Twitter feed https://twitter.com/WE4Bravo

Parque Estadual Canions do Rio Poty (Grid GI94) – April, 26 to 28, 2019
DXPedition ZV8FF will be active April 26th to 28th. Operators PS8RV, PS8ACM, PS8NF, and PS8BR announce HF bands in SSB, CW, FT8. In addition there is the possibility of Satellites FM, SSB and CW, so stay tuned.

California (DM15) – April 27, 2019
Dave, AD7DB, will be in DM15 in the high desert town of North Edwards CA, just outside Edwards AFB. Planned passes are AO-91, AO-92 and SO-50. More exact details on Twitter https://twitter.com/ad7db as the time approaches.
Northern MI+ (EN84, EN92, EN93 – April 27-28, 2019
AA8CH and WW8W will be activating EN84 for the afternoon/evening of Saturday April 27th tentatively starting 1800UTC, then EN92/EN93 Sunday April 28th morning/early afternoon (AO7 looking for EU at 1700UTC). FM an linears. Watch Twitter feed for further updates https://twitter.com/charliehotel10.

Waco, TX (EM11) – April 28, 2019
Brian, KG5GJT, will be visiting Waco, TX on Sunday, April 28th, and possibly Saturday night. No planned passes at this time, but keep an eye on Brian's Twitter feed for further announcements

https://twitter.com/KG5GJT.

Northern Border Security Check (Minnesota to Washington) – April 29 to May 4 or 5th, 2019
Alex, N7AGF, is all set for his semiannual rover trip to activate rare and somewhat rare grids, from April 29th to May 4th or 5th (or longer depending on how things go). Alex will fly into Minneapolis and drive back to his home grid CN88, activating as many ENx8,ENx7,DNx8,and DNx7 grids as possible along the route. The hope is to hit many corners and lines.

Alex will be on both linear and FM birds.

As always, activations and route details will be posted to his Twitter @N7AGF at https://twitter.com/N7AGF . Alex will also be on APRS at https://aprs.fi/N7AGF-10 . In areas of limited cell service, he'll be using inReach.

Email or hit Alex on twitter with grid requests, route suggestions, or hot tourist attractions in Minot.
Northeast North Dakota (EN06/EN07/EN08/EN16/EN17/EN18) – May 2-5, 2019
Mitch, AD0HJ, is heading out to the Grand Forks, ND Hamfest on May 4th, but also just goofing off for a few days in the general area. Mitch will be limited to working the FM Satellites only (SO-50, AO-91, AO-92). Plans are to work EN17/18 on May 2, EN07/08 on May 3, EN17/18 again on May 4 (day of hamfest), and then EN06/16 on May 5. A full pass schedule will be viewable on the Twitter announcement https://twitter.com/KE4ALabama/status/1116524856781230080, and up-to-date pass info on Mitch's Twitter feed https://twitter.com/AD0HJ.

Upstate NY (FN14, FN24) – May 3, 2019
Robert, KE2QI, activating the FN14/24 gridline Friday evening, May 3rd. Watch for updates on Rober's Twitter feed https://twitter.com/skyguydx

Pennsylvania (FN11,FN21) – May 5, 2019
Steve, NS3L, will activate the FN11/FN21 gridline mid-morning to early afternoon of May 5th. In addition, he might go to FN12 afterward. FM & SSB Linear birds. Note, fair weather trip only. If heavy rain is forecast, he might postpone & reschedule. During the trip, Steve will be beaconing on APRS NS3L-9. See Steve's Twitter feed for further updates https://twitter.com/NS3L

FN13/FN14 Gridline – May 11-12, 2019
Michael, K2MTS will be in FN13/14 May 11-12, 2019, operating holiday style. Keep an eye on Michael's Twitter feed https://twitter.com/k2mts for specific pass announcements.

Pennsylvania (FN00) – May 13-15, 2019
Tanner, W9TWJ, will be back in FN00 May 13th-15th, if anyone still needs it. Possible he will also do the 15th in EN90 again. FM evening passes. Will look into FN01 to see if it's possible. Watch Tanner's Twitter feed for pass details https://twitter.com/twjones85.

Southwest South Dakota (DN83++) – May 19-23, 2019
Clayton, W5PFG, will be operating from DN83 on all FM/SSB satellites holiday-style , May 19-23. Open to schedules with EU. In the days proceeding he'll be on from DN91 and in the days following from DN74, DN71, potentially DN70, and lastly DM99. Twitter @w5pfg
Texas (EM13, EM22, EM23) – May 19-21, 2019
Ryan, AI6DO, has an upcoming business trip for fried pies and a satellite rove: Planning EM13 5/20 & 5/21, EM22/23 grid line 0000-0300 5/20 & 5/22 UTC (5/19 & 5/21 local). Probably FM & APRS only. Updates via Twitter https://twitter.com/AI6DO

Point Pelee National Park, Canada (EN81, EN82) – May 25, 2019
KM4LAO, Ruth, will head north of the border to activate Point Pelee National Park in Ontario EN81, Saturday, May 25th. Ruth may also do a pass or two from EN82 as time allows. Plan is for FM and linear satellite passes, as well at QRP HF. Call sign for this activation and subsequent LoTW upload will be KM4LAO/VE3. This will also be a CNPOTA activation, so please upload your log to the CNPOTA website https://cnpota.ca/. Further announcements will be posted on Ruth's Twitter feed https://twitter.com/KM4Ruth as we get closer to the activation date.

Pacific Northwest (CN85, CN83/CN84, CN76/CN86) – May 31 to June 2, 2019
Casey, KI7UNJ, will be on in CN83/84 Friday, May 31st, CN85 Saturday, June 1st, and CN76/86 Sunday, June 2nd. Pass list to come in next few weeks.

Iceland (HP95 IP15 IP25 IP03 HP03) – July 13-19, 2019
Adam, K0FFY, is taking his family (and his radios) to Iceland. Tentative schedule is HP95 July 13, IP13 and IP15 July 14-15, IP25 July 16, IP03 or HP93 July 17-18, and HP94 July 19. There's a lot to see, so passes will be best effort and announced on Twitter shortly prior. https://twitter.com/K0FFY_Radio

Please submit any additions or corrections to ke4al (at) amsat.org
Updated April 26, 2019

See
https://www.amsat.org/satellite-info/upcoming-satellite-operations/

[ANS thanks Robert KE4AL for the above information]

ARISS News

Recent successful ARISS Contacts

+ 2019-04-24 17:46 UTC between David St-Jacques KG5FYI, using ISS callsign NA1SS and Hidden Oaks Middle School, Prior Lake, MN, USA Contact was direct via N9CHA. ARISS Mentor was Ryan W4NTR.

+ 2019-04-18 18:04 UTC between David St-Jacques KG5FYI using ISS callsign NA1SS and École internationale de Saint-Sacrement, Quebec City, Quebec, Canada Contact was direct via VE2GHO. ARISS Mentor was Steve VE3TBD.

Editor's Note:
Hidden Oaks Middle School ARISS contact with David Saint-Jacques aboard the International Space Station, April 24, 2019. This video highlights the conversation and efforts of the teachers and ham radio operators who shared the excitement.
https://www.youtube.com/watch?v=vEf7yURjZg8&feature=player_embedded

[ANS thanks Greg N9CHA for the above information.]

Upcoming ARISS Contact Schedule

Quick list of scheduled contacts and events as of 2019-04-26 20:30 UTC:

Observatorio Astronómico de Mallorca (OAM), Costitx (Mallorca-Islas Baleares-España), Spain, telebridge via W6SRJ
Participating schools: Colegio San José Obrero, Palma de Mallorca(Islas Baleares-España), Spain and Colegio Luis Vives, Palma de Mallorca(Islas Baleares-España), Spain
The ISS callsign is presently scheduled to be NA1SS
The scheduled astronaut is Nick Hague KG5TMV
Contact is go for: Mon 2019-04-29 11:48:40 UTC
Watch for live stream at
https://www.youtube.com/user/LuisVivesTV/live

Mildred Hall School, Yellowknife, NT, Canada, telebridge via LU8YY
The ISS callsign is presently scheduled to be NA1SS
The scheduled astronaut is David St-Jacques KG5FYI
Contact is go for: Fri 2019-05-03 18:32:19 UTC

[ANS thanks ARISS, Charlie AJ9N and David AA4KN for the above information]

Shorts From All Over

+ F5UII documents receiving the 10 GHz downlink from Qatar Oscar 100 with SDR Console:
  https://tinyurl.com/ANS-118-F5UII

  [ANS thanks F5UII via Twitter for the above information)

+ What Are CubeSats?

  Space Daily present a look at the brief history of Cube Sats.
  Access here:
  http://www.spacedaily.com/reports/What_Are_CubeSats_999.html

  [ANS thanks Space Daily for the above information]

/EX

In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status. Contact Martha at the AMSAT Office for additional student membership information.

73,
This week's ANS Editor,
EMike McCardel, AA8EM
aa8em at amsat dot org